

XI. *Some Remarks on an Error respecting the Site and Origin of Graham Island.* By Captain W. H. SMYTH, R.N. F.R.S. F.S.A.

Read February 9, 1832.

IN consequence of accounts recently published concerning the rise and progress of this island, which I conceive to have been stated materially in error, and in order that physical inquiry may receive as exact data as can be afforded, I beg leave to offer the following remarks to the Royal Society.

It was stated, in the first letters which arrived from Malta, that an officer on the Mediterranean station was in possession of an old chart, whereon was “a shoal with only four fathoms on it, and called Larmour’s Breakers;”—and this being asserted to be “within a mile of the latitude and longitude” of the new island, was consequently announced as its nucleus. On reading some of these letters I saw at once that the chart was mistaken for a valuable document; but being aware that its particulars were well known to navigators, I should not have deemed it to require notice, had not the erroneous inference been repeated, both in the *Journal of the Geographical Society*, and in the *Quarterly Review*.

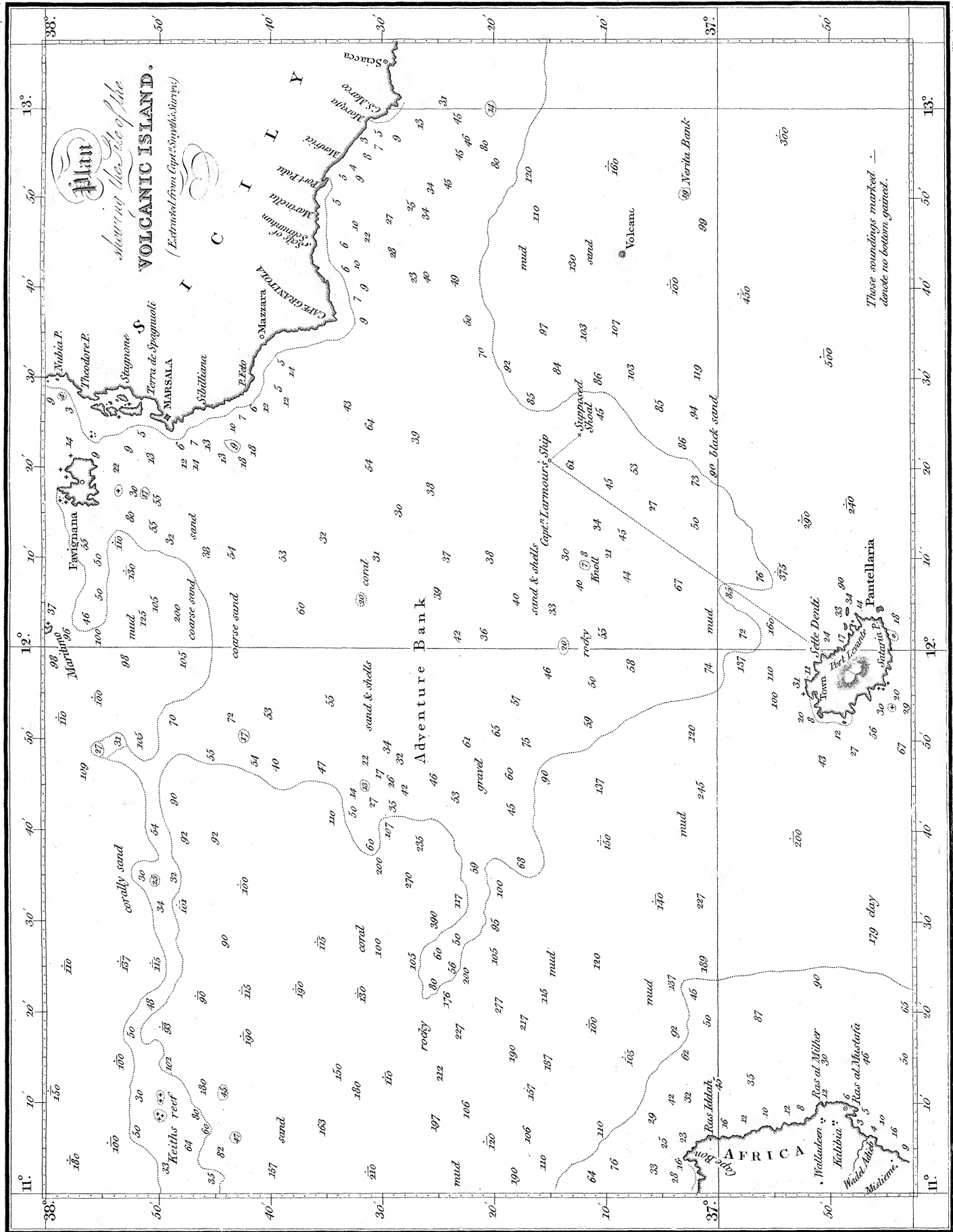
The danger alluded to as existing, upon the “old chart”, was never ascertained or verified; it was only thought to have been seen, by Captain LARMOUR, when in command of the *Wassanaer*, a troop-ship, on the Egyptian expedition. But the same impression did not strike all the officers and passengers; and on the commander-in-chief dispatching two or three vessels to examine it for a more detailed report, no shoal-water could be found. The present Captain RICHARD SPENCER, C.B., then a lieutenant on board the *Wassanaer*, was one of the officers sent to assist in the search; and from him I had these particulars. Yet the minute which had been forwarded to me from the Admiralty, being written in these decided terms—

“H. M. Ship *Wassanaer*, 11th of December 1800, p. m. The island of Pantellaria S.W. by W. 9 or 10 leagues, saw a reef of rocks S.S.E., distant 3 or 4 miles, extending N.N.W. and S.S.E., about one mile in length. Hauled up S. by W., to clear them. Saw something on the reef like a ship's mast. Bearings by compass.”—

I examined the spot with a rigorous strictness, (see Plate VII.) ; and from the various traverses which I made in every direction, with the lead going by night and by day, I feel prepared to assert that, no reef of the nature described by Captain LARMOUR in 1800, and no shoal of four fathoms water, could have existed in 1814. How the said “four fathoms” crept into our charts, is best known to the ship-chandlers who too long purveyed to the scientific wants of seamen ; but from the absence of positive testimony, from the careful search made by order of Lord KEITH, from my own several cruizes, and from the material fact of its being in the high road which is annually beaten by hundreds of ships, it is not presuming greatly to say, that neither the one nor the other had any existence.

Nor is the assigned place “within a mile” of the position of the volcanic islet, though it may accidentally have been so marked upon the “sea-cards ;” for it should be remembered that the true site even of the principal headlands around was not then decided. According to the minute just quoted, corrected for magnetic variation, LARMOUR's supposed reef is no less than sixteen miles W. by N. from it, on a part of the sub-aqueous plateau (which I named Adventure Bank) uniting Sicily to Africa by a succession of ridges,—about a spot where I found from 40 to 50 fathoms of water. Graham's Isle, however, is not upon this bank ; it arose between it and a knoll some miles to the eastward, which, from a shell brought up by the arming, I called Nerita ; and, if the observations which determine the latitude and longitude of the stranger as in  $37^{\circ} 08' 25''$  N. and  $12^{\circ} 43' 50''$  E. be correct, it must have been elevated through more than a hundred fathoms of water.

In thus doubting the actual existence of the Larmour Shoal, it is not my intention to dispute the appearance and disappearance of natural phenomena ; nor that stupendous alterations may occur by the subsidence and uplifting of strata,—because an obstinate scepticism would be absurd, especially in a part of the globe where, to use a well-expressed Italian metaphor, the whole ground



is "tremblingly alive." But it is reasonable and proper to question such rumours as have been made without due examination. In the instance before us, no endeavour was made to establish the truth by either shortening sail, lowering a boat, or even getting a cast of the lead; moreover, they were three or four miles from the supposed object, and opinions on board the *Wassanaer* were not at all unanimous. By similar indecision a teasing knot of perils has gained random insertion upon our charts, to the disquietude of sea commanders; but it is a fault which is fast disappearing, and it may be trusted that there are few officers who would not think themselves liable to the imputation of culpable carelessness, did they not seek to verify such "dangers" as they might accidentally encounter.

I do not think sub-aqueous volcanic explosions are of such rare occurrence as is generally supposed; and extremely sudden intumescence may arise from the expansion of an inferior lava bed. It is not at all improbable that gaseous fluids, and ejectamenta, may have been seen, before the accumulation of solid matter, protruded from the vent, was sufficient to form a crater of eruption. A volcanic apex may become visible, and again be quickly destroyed by trituration, the solution of mineral substances, and the repressive force of the column of water over the vent. Now, as there was a chance that something of the kind had occurred in the neighbourhood assigned to Larmour's reef,—breakers having been reported near the same spot by the *Greyhound* frigate, and shoals having been immemorially marked there under the names of *La Ajuga*, and *B. Scoglio*,—I laboriously explored the whole vicinity. In examining the chart which resulted from this undertaking, it will be found that a knoll, with only seven fathoms upon it, was discovered not far from the site of all these reports, and that the *Adventure Bank* extends from Sicily nearly to *Pantellaria*, where the water deepens at once from 76 fathoms to no bottom with 375 fathoms of line. A further inspection will show that the *Phlegræan* islands of *Pantellaria* and *Linosa* have been protruded from the greatest depths, where perhaps the fires found the least resistance.

All these considerations led me to suppose that though the reports were exceedingly vague, volcanic agency might still have given grounds for them. I therefore made particular inquiries, both in Sicily and *Pantellaria*, as to local earthquakes, and whether any volumes of smoke, *ferilli* or jets of flame,

comminuted ashes, or other fragmentary ejectments, had been noticed in that direction ; but I could hear of none. Yet we are told, as a “fact” of weight, that a tradition is current, which says, “A volcano existed in the same spot about the commencement of the last century.” It would be difficult to say how this tradition was preserved amongst a people little given to letters; and I never, in my long residence and systematic researches at the above place, and in Malta, heard the slightest hint of it.

I am therefore led to the conclusion,—firstly, that no shoal or danger has lately existed in that channel, excepting only an occasional overfall in very heavy weather on the 7 fathom knoll where I anchored H. M. ship *Adventure*, and which is sufficiently near for bearings taken at random, and without suspicion of the existence of local attraction, to be placed in identity with the reports above mentioned. Secondly, that even if what Captain LARMOUR became persuaded he saw, was actually a temporary volcanic effect, it had no possible relation to breakers with “four fathoms” upon them. And it follows, that the assertion of Graham Island having been formed by the mere “lifting up” of such shoal, must be utterly destitute of foundation.